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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,228	09/28/2001	Horacio E. Franco	SRI/4580-2	7137

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EXAMINER
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LAO, TIM P

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/967,228

Applicant(s)

FRANCO ET AL.

Examiner

Tim Lao

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. 02

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuhn et al. (U.S. Patent 6,029,132, hereinafter "Kuhn").

Claim(s)	<u>Kuhn discloses:</u>
1	<p>A method for recognizing an utterance that pertains to a sparse domain, the sparse domain having a linguistic structure (e.g., phonemes) and a plurality of components, objects or concepts (e.g., context-related words), the method comprising the steps of: (col.2, ll.19-34)</p> <p>acquiring a speech signal that represents an utterance; (Fig.1: 14)</p> <p>performing a first recognition pass by applying a first language model to the speech signal; (Fig.1: 16)</p> <p>selecting or generating a second language model (e.g., phoneme mixed-tree model: Fig.1: 20) based at least in part on results from the first recognition pass (Fig.1: 18), on information regarding a linguistic structure (e.g., phonemes) of a domain (e.g., context-related words) within the speech signal, and on information regarding relationships among the domain components, objects or concepts within the speech signal; and</p>

	performing a second recognition pass (Fig.1: 20) by applying the second language model (e.g., phoneme mixed-tree model: Fig.1: 20) to at least a portion of the speech signal (Fig.1: 14) to recognize the utterance containing the speech signal.
Claim(s) 2	<u>Kuhn discloses:</u>  The method of claim 1 wherein the first and second language models are probabilistic finite state grammars. (e.g., probability scores: Fig.1: 18, 22; col.4, ll.30-38)
Claim(s) 3	<u>Kuhn discloses:</u>  The method of claim 1 wherein the first and second language models are statistical language models. (e.g., N-best: col.4, ll.30-38)
Claim(s) 4	<u>Kuhn discloses:</u>  The method of claim 1 further comprising the step of selecting or generating acoustic models (e.g., phoneme-mixed tree model: Fig.1: 20) based at least in part on results from the first recognition pass (Fig.1: 18), on information regarding the linguistic structure (e.g., phonemes) of the domain, and on information regarding relationships among the domain components, objects or concepts (e.g., context-related words: col.2, ll.19-34).
Claim(s) 7	<u>Kuhn discloses:</u>  In a speech recognition system, a method for recognizing an utterance comprising the steps of:  acquiring a speech signal that represents the utterance; (Fig.1: 14) and  performing a series of recognition passes (Fig.1: 16, 20), a second and subsequent recognition passes (Fig.1: 20) processing at least a portion of the speech signal (Fig.1: 14) using a language model that is constrained by a result of a previous recognition pass.
Claim(s) 8	<u>Kuhn discloses:</u>

	<p>The method of claim 7 wherein the second and subsequent recognition passes use acoustic models (e.g., phoneme mixed-tree model: Fig.1: 20) that are constrained by a result of a previous recognition pass (Fig.1: 18).</p>
Claim(s) 9	<p><u>Kuhn discloses:</u></p> <p>A method for generating language models between speech recognition passes, the language models based on a domain having a linguistic structure (e.g., phonemes) and a plurality of components, objects or concepts (e.g., context-related words), the method comprising the steps of: (col.2, ll.19-34)</p> <p>generating or acquiring a database (Fig.1: 10) containing information regarding the linguistic structure of the domain and information regarding relationships among the domain components, objects or concepts;</p> <p>acquiring a result from a speech recognition pass (Fig.1: 18), the result including a domain component, object or concept; and</p> <p>generating a language model (e.g., phoneme-mixed tree model: Fig.1: 20) that includes a subset of the domain by using the result from the speech recognition pass (Fig.1: 18) to select information from the database.</p>
Claim(s) 10	<p><u>Kuhn discloses:</u></p> <p>In a speech recognition system, a method for generating language models based on a domain having a plurality of components, objects or concepts (e.g., context-related words), the method comprising the steps of: (col.2, ll.19-34)</p> <p>acquiring a result from a speech recognition pass (Fig.1: 18), the result including a domain component, object or concept (e.g., context-related words);</p> <p>using the result from the speech recognition pass (Fig.1: 18) to perform a search on a database (Fig.1: 50) that contains information regarding relationships among the domain components, objects or concepts (e.g., context-related words); and</p>

	generating a language model (e.g., phoneme-mixed tree model: Fig.1: 20) using a result from the database search.
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3. Claims 5-6 and 11-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Junqua et al. (U.S. Patent 6,314,165, hereinafter "Junqua").

Claim(s) 5	<p><u>Kuhn discloses:</u></p> <p>A method for recognizing an utterance pertaining to an address or location, each address or location having a plurality of components, the method comprising the steps of: (col.2, ll.31-54)</p> <p>acquiring a speech signal that represents an utterance; (Fig.3: 76)</p> <p>performing a first recognition pass by applying a first language model to the speech signal; (Fig.3: 78)</p> <p>selecting or generating a second language model (e.g., phoneme mixed-tree model: Fig.3: 82) based at least in part on results from the first recognition pass (Fig.3: 80) and on information regarding relationships among the address or location components; and</p> <p>performing a second recognition pass (Fig.3: 82) by applying the second language model (e.g., phoneme mixed-tree model: Fig.3: 82) to at least a portion of the speech signal (Fig.3: 76) to recognize the utterance contained in the speech signal.</p>
Claim(s) 6	<p><u>Kuhn discloses:</u></p> <p>The method of claim 5 further comprising the step of selecting or generating acoustic models (e.g., phoneme mixed-tree model: Fig.3: 82), the selection or generation based at least in part on results from the first recognition pass (Fig.3: 80) and on information regarding relationships among the address or location components. (col.2, ll.31-54)</p>

Claim(s) 11	<p><u>Kuhn discloses:</u></p> <p>A method for recognizing an address or location expressed as a single utterance, the method comprising the steps of: (col.2, ll.31-54)</p> <p>acquiring a speech signal that represents the single utterance; (Fig.3: <b>76</b>) and</p> <p>performing a series of recognition passes (Fig.3: 78, 82), a second and subsequent recognition passes (Fig.3: 82) processing at least a portion of the speech signal (Fig.3: <b>76</b>) using a language model (e.g., phoneme mixed-tree model: Fig.3: <b>82</b>) that is constrained by a result of a previous recognition pass (Fig.3: <b>80</b>).</p>
Claim(s) 12	<p><u>Kuhn discloses:</u></p> <p>The method of claim 11 wherein each address or location has a plurality of components (e.g., city, zip). (col.2, ll.31-54)</p> <p><i>{An address inherently has city and zip components.}</i></p>
Claim(s) 13	<p><u>Kuhn discloses:</u></p> <p>The method of claim 12 wherein the first recognition pass (Fig.3: <b>78</b>) processes the speech signal (Fig.3: <b>76</b>) using a first language model (e.g., pronunciation model: Fig.3: <b>78</b>).</p>
Claim(s) 14	<p><u>Kuhn discloses:</u></p> <p>The method of claim 13 wherein the first language model may be used to recognize only a subset of the address or location components (e.g., city and zip).</p>
Claim(s) 15	<p><u>Kuhn discloses:</u></p> <p>The method of claim 14 wherein the language models used in the second and subsequent recognition passes (Fig.3: <b>82</b>) may be used to recognize only a subset of the address or location components (e.g., city and zip).</p>
Claim(s)	<p><u>Kuhn discloses:</u></p>

16	<p>The method of claim 15 wherein the second and subsequent language models (e.g., phoneme mixed-tree model: Fig.3: <b>82</b>) are selected or generated by using the result from a previous recognition pass (Fig.3: <b>80</b>) to perform a search on a database (e.g., hotel guest database: Fig.1: <b>20</b>) that contains information regarding relationships among the address or location components (e.g., city and zip).</p>
Claim(s) 17	<p><u>Kuhn discloses:</u></p> <p>The method of claim 11 wherein the second and subsequent recognition passes uses acoustic models (e.g., phoneme mixed-tree model: Fig.3: <b>82</b>) that are constrained by a result of a previous recognition pass (Fig.3: <b>80</b>).</p>

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

#### U.S. Patent Documents:

- |               |         |                  |
|---------------|---------|------------------|
| [1] 6,631,346 | 10/2003 | Karaorman et al. |
| [2] 6,526,380 | 02/2003 | Thelen et al.    |
| [3] 5,177,685 | 01/1993 | Davis et al.     |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Lao whose telephone number is 703-305-8955.

The examiner can normally be reached on M-F, 8:30am-5pm.

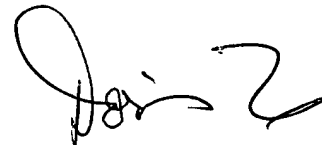
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Lao  
Examiner  
Art Unit 2655

TL  
05/24/04



**DORIS H. TO**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**